

**Remarks**

Claims 1-22, 26, 40, 44, 62, 80, 98, 114, and 120 were pending. Claims 2-12, 16, 20, 22, 26, 40, 44, 62, 80, 98, 114, and 120 have been withdrawn from consideration. Claims 13 and 21 are amended. Claims 1, 14, 15, and 17 are cancelled without prejudice. No new matter is introduced.

Applicants acknowledge that the Examiner has indicated that the corrected drawings have been approved by the draftsman.

Applicants have amended the specification to address objections raised by the Examiner. Specifically, the title of the invention has been amended, as required by the Examiner, to indicate the elected claims are directed to nucleic acids. In addition, SEQ ID NOs have been associated with the Brief Description of the Drawings for Figures 10, 11, 13-15, and 20-25. Furthermore, embedded hyperlinks on page 29, lines 27 and 28, have been omitted. Finally, the misspelling on page 9, line 6, has been corrected.

***Claim Objections***

The Examiner objected to claims 1, 13, 14, 15, 17, 18, 19, and 21 for their alleged inclusion of non-elected subject matter. In response, Applicants respectfully submit that cancellation by this amendment of claims 1, 14, 15, and 17, and amendment by this amendment of claim 13 overcome this objection. It is Applicants' belief that the objection to claims 18, 19, and 21, which depend directly or indirectly from claim 13, are likewise overcome. Applicants respectfully request that the Examiner withdraw the claim objections.

***Claim Rejections Under 35 U.S.C § 112, first paragraph***

The Examiner rejected claims 1, 13-15, 17-19, and 21 under 35 U.S.C § 112, first paragraph, for alleged lack of adequate written description. The Examiner indicated that Applicants elected sequence hTLR9-CXXCm, which is encompassed in SEQ ID NO:4 except for 18 nucleotides which are modified with a murine fragment as seen in SEQ ID NO:141. The Examiner went on to indicate that SEQ ID NO: 1, 2, 3, 4, and 141 and their full complements meet the written description provisions of 35 U.S.C § 112, first paragraph.

In response, Applicants point out that they have canceled claims 1, 14, 15, and 17, and amended claim 13 to specify a nucleic acid which encodes a TLR9 polypeptide hTLR9-CXXCm. In view of the Examiner's statements above, it is Applicants' belief that claim 13 meets the written description provisions of 35 U.S.C § 112, first paragraph. Since claims 18, 19, and 21 depend directly or indirectly from claim 13, Applicants also submit that these claims also meet the written description provisions of 35 U.S.C § 112, first paragraph. Applicants therefore respectfully request the Examiner to withdraw the rejection under 35 U.S.C § 112, first paragraph, for alleged lack of adequate written description.

*Claim Rejections Under 35 U.S.C § 112, second paragraph*

The Examiner rejected claims 1, 13-15, 17-19, and 21 under 35 U.S.C § 112, second paragraph, for alleged failure to particularly point out and distinctly claim the subject matter the Applicants regard as the invention. According to the Examiner, claims 1, 13, 17, and 21 are vague and indefinite due to unclarity of citing an abbreviation such as TLR and TIR. The Examiner also alleged that the phrase "comprising the isolated nucleic acid molecule" in claim 18 is vague and indefinite because it is unclear to the Examiner if the nucleic acid molecule is referring to the entire nucleotide sequence of claim 13 or just a fragment of the sequence. In addition, the Examiner made the assertion that claims 17 and 21 are unclear because of the use of the term "capable" in the phrase "capable of interacting with a TIR domain".

In response, Applicants begin by pointing out that claims 1, 14, 15, and 17 are canceled by this amendment, thus overcoming the rejection of these claims under 35 U.S.C § 112, second paragraph.

Claim 13 is amended, *inter alia*, to recite "Toll-like receptor 9 (TLR9)" in place of just "TLR9". Support for this claim language can be found, for example, at page 4, lines 25-26. Claim 21 is amended in a manner that no longer makes reference to the term "TIR". Applicants respectfully submit that the rejection of claims 13 and 21 for unclarity due to citing the abbreviations TLR and TIR should be withdrawn in view of the amended claim language.

As to use of the phrase "comprising the isolated nucleic acid molecule" in claim 18, Applicants respectfully submit that the amendment of claim 13, to recite an isolated nucleic acid molecule which encodes a Toll-like receptor 9 (TLR9) polypeptide hTLR9-CXXCm, fully addresses the rejection of claim 18 made on the basis of use of the phrase "comprising the isolated nucleic acid molecule". Applicants submit that the amended claim language of claim 13

makes it clear that the nucleic acid molecule in claim 18 is referring to the entire nucleotide sequence of claim 13. As claims 19 and 21 depend from claim 18, Applicants respectfully request that the Examiner withdraw her rejection of claims 18, 19, and 21 in view of the amended claim language.

As to use of the phrase “capable of interacting with a TIR domain” in claim 21, Applicants respectfully submit that the amendment of claim 21 to substitute the phrase “to detect Toll-like receptor (TLR)-related signaling” for the original phrase “capable of interacting with a TIR domain” should overcome the rejection. Support for this amended claim language can be found, for example, at page 14, lines 1-4, and at page 85, lines 6-28. Accordingly, Applicants respectfully request the Examiner to withdraw the rejection of claim 21.

*Claim Rejections Under 35 U.S.C § 102(a)*

The Examiner rejected claim 1 under 35 U.S.C § 102(a) for alleged anticipation by GenBank accession numbers BE705670, BE412777, AQ984126, and AF245704. The Examiner also rejected claims 1 and 13 under 35 U.S.C § 102(a) for alleged anticipation by GenBank accession number AL356815. The latter rejections are based on identification by the Examiner of a nucleic acid sequence in AL356815 which contains a fragment that encodes amino acid residues GQKS corresponding to residues 269-272 of SEQ ID NO:3, as well as a nucleic acid fragment “GGCC” which is found in SEQ ID NO:1.

In response, Applicants begin by pointing out that claim 1 is canceled by this amendment, thus overcoming the rejection of this claim under 35 U.S.C § 102(a). Applicants also point out that claim 13, as amended, is directed to an isolated nucleic acid molecule which encodes a 1032 amino acid polypeptide, hTLR9-CXXCm. Claim 13 is clearly not anticipated by the cited reference by the mere coincidence of nucleic acid sequence that encodes four amino acid residues in common. Accordingly, Applicants respectfully request the Examiner to withdraw the rejection made under 35 U.S.C § 102(a).


*Summary*

Claims 1, 14, 15, and 17 are canceled, and claims 13 and 21 are amended by this Amendment. It is believed that the claims are in condition for allowance. A prompt and favorable action is earnestly solicited.

If the Examiner has any questions about this response, she is urged to contact Applicants' representative at the number shown below.

Respectfully submitted,

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